

**REMARKS**

Claims 1-16 have been rejected. Claim 17 has been added. Claims 1-17 remain for prosecution.

The rejections and objections of the claims shall be taken up in the order presented in the Office Action.

2. Claims 1-4 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Massa, Jr. (U.S. Patent 3,319,220) in view of Massa (U.S. Patent 3,716,827) and the Piquette patents (U.S. Patent 5,926,439 and U.S. Patent 5,949,741).

The claimed invention includes an underwater sound source which comprises a housing having an inner and an outer surface. The housing is adapted to receive fluid therein to form a fluid column inside the housing and a monopole driver is suspended within the housing. The fluid column is excited when the monopole driver is actuated.

To support the obviousness rejection, the Examiner states:

"There appear to be two differences between claim 1 and the Massa, Jr. patent. The first difference is the claim specifies a monopole driver, to which Massa, Jr. is silent, and the second difference is the driver is suspended within the housing, to which Massa, Jr. is again silent.

With respect to the second difference, the patent to Massa teaches flexibly suspending the transducer (12) of Massa, Jr. within the housing. Such a mounting or suspension of the transducer permits improved cooling of the transducer, especially during high power underwater operations.

With respect to the first difference, the Piquette patents each teach underwater sound projectors that include a driver which comprises a push-pull configuration or a monopole driver. Such a push-pull configuration is taught by Piquette to produce cancellation of non-linear responses and the provision of a linear acoustic output for the low frequency underwater source. Thus, in view of Piquette, it would have been obvious to one of ordinary skill in the art at the time of the invention, to substitute the driver of Piquette for the driver (12) of Massa Jr." (See enumerated paragraph 2 of the Office Action)

An obviousness determination cannot be established by combining the teachings of the prior art to produce the claimed invention, unless some teaching, suggestion or incentive supporting the combination exists in the prior art.<sup>1</sup> It is the duty of the Examiner to explain why the combination of

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<sup>1</sup> See *In re Geiger*, 815 F.2d 686, 688 (Fed. Cir. 1987).

the prior art to produce the claimed invention is proper.<sup>2</sup> In addition, the explanation must be based on factual evidence extracted from the prior art.<sup>3</sup>

Noticeably absent from the Examiner's above comments is the necessary non-conclusionary explanation, supported by factual evidence, as to how the prior art teaches, suggests or provides incentive to one of skill in the art to combine the prior art to produce Applicants' claimed device, namely an underwater sound source having a housing adapted to receive fluid therein to form a fluid column inside the housing and a monopole driver suspended within the housing wherein the monopole driver excites the fluid column. In fact, it is submitted that the prior art is devoid of any such teaching, suggestion or incentive thereby rendering claim 1, and claims 2-16 dependent thereon, non-obvious in view thereof.

3. Applicants acknowledge and appreciate the Examiner's indication that claims 5-16 contain allowable subject matter.

For all the foregoing reasons, reconsideration and allowance of claims 1-16 is respectfully requested.

Respectfully submitted



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<sup>2</sup> See *Ex parte Skinner*, 2 U.S.P.Q.2d 1788, 1790 (Bd. App. & Int'l 1986).

<sup>3</sup> See *In re Dembiczak*, 175 F.3d 994, 999-1000 (Fed. Cir. 1999), rev'd on other grounds, *In re Gartside*, 203 F.3d 1305, 1316 (Fed. Cir. 2000).